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between second semiconductor regions that are adjacent in the perpendicular sectional plane, the current path running through said channel zone.

3. The bipolar semiconductor component as claimed in claim 2, wherein the second semiconductor regions have a maximum dopant concentration greater than $5 \times 10^{18}/\text{cm}^3$.

4. The bipolar semiconductor component as claimed in claim 2, wherein the first semiconductor region has a maximum dopant concentration less than $10^{15}/\text{cm}^3$.

5. The bipolar semiconductor component as claimed in claim 2, wherein adjacent second semiconductor regions, in a direction running parallel to the first surface, are at a minimum distance d.

6. The bipolar semiconductor component as claimed in claim 5, wherein the distance d is less than approximately 1 μm .

7. The bipolar semiconductor component as claimed in claim 5, wherein the distance d is less than 10% of the maximum extent L of the second semiconductor regions, in the direction running parallel to the first surface.

8. The bipolar semiconductor component as claimed in claim 2, wherein an area proportion of the second semiconductor regions in a sectional plane running parallel to the first surface is approximately 90% to 98%.

9. The bipolar semiconductor component as claimed in claim 2, wherein a dopant concentration of the second semiconductor regions has a maximum at the first metallization.

10. The bipolar semiconductor component as claimed in claim 2, wherein a dopant concentration of the second semiconductor regions, in a vertical direction, has a maximum at a vertical depth corresponding to the horizontal plane in which the second semiconductor regions are at a minimum distance from one another.

11. The bipolar semiconductor component as claimed in claim 2, wherein the second semiconductor regions form a grid.

12. The bipolar semiconductor component as claimed in claim 2, wherein a minimal distance between the second semiconductor regions is at a depth between 30% and 70% of a depth of said second semiconductor regions.

13. The bipolar semiconductor component as claimed in claim 2, wherein in an off state of the bipolar semiconductor component the space charge region does not reach an n-doped contact zone of the bipolar semiconductor component.

14. The bipolar semiconductor component as claimed in claim 13, wherein an electric field in the off state is spaced apart from the n-doped contact zone by at least 0.3 microns.

15. The bipolar semiconductor component as claimed in claim 1, wherein the current path is connected in parallel with the load pn junction.

16. A semiconductor diode having a dynamic anode emitter efficiency, comprising:

a cathode;

an anode spaced apart from the cathode by a semiconductor body, the anode disposed on a first horizontal surface of the semiconductor body and the cathode disposed on a second horizontal surface of the semiconductor body which opposes the first surface;

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an anode structure adjacent the anode and formed in the semiconductor body, the anode structure comprising a plurality of p-doped anode emitter zones respectively spaced apart from one another by an n-doped channel zone; and

wherein a space charge region forms in the semiconductor body beginning below a load pn junction formed by the p-doped anode emitter zones and extending above the load pn junction and ending in the semiconductor body before the first horizontal surface to prevent current flow between the anode and the cathode when a positive voltage is applied between the cathode and the anode.

17. The semiconductor diode as claimed in claim 16, wherein the p-doped anode emitter zones have a maximum dopant concentration of more than $5 \times 10^{18}/\text{cm}^3$.

18. The semiconductor diode as claimed in claim 16, wherein the anode is in contact with the p-doped anode emitter zones and a drift region, which forms load pn junctions with the p-doped anode emitter zones, wherein the n-doped channel zone comprises an n-doped contact zone arranged between the anode and in each case two adjacent anode emitter zones and the drift region and has a maximum dopant concentration of more than $5 \times 10^{18}/\text{cm}^3$.

19. The semiconductor diode as claimed in claim 16, wherein the n-doped channel zone comprises an n-doped channel region arranged between two adjacent anode emitter zones and which is depleted in the reverse direction of the semiconductor diode.

20. A bipolar semiconductor component, comprising:

a semiconductor body having a first horizontal surface and a second surface which runs substantially parallel to the first surface;

a first metallization arranged on the first surface;

a second metallization arranged on the second surface;

an n-doped first semiconductor region arranged in the semiconductor body, in ohmic contact with the second metallization;

at least two p-doped second semiconductor regions arranged in a manner spaced apart from one another horizontally in the semiconductor body, the at least two p-doped second semiconductor regions forming a load pn junction with the first semiconductor region;

at least one current path which runs in the semiconductor body from the first metallization to the second metallization only through n-doped zones, wherein a first section of the current path runs between two adjacent second semiconductor regions; and

wherein a space charge region forms in the semiconductor body beginning below the load pn junction and extending above the load pn junction and ending before the first horizontal surface to prevent current flow between the first and second metallizations when a positive voltage is applied between the second metallization and the first metallization.

21. The bipolar semiconductor component as claimed in claim 20, wherein the first section has a depletable zone delimited horizontally by adjacent second semiconductor regions.

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